SOME NEW DISTRIBUTIONAL RECORDS FOR *LESQUERELLA LESCURII* (GRAY) WATSON (BRASSICACEAE), INCLUDING THE FIRST REPORT FOR KENTUCKY

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ABSTRACT

Lesquerella lescurii (Gray) Watson, a mustard of limited distribution and threatened status, has heretofore been viewed as endemic to the Central Basin of Tennessee. Recent collections show that the species is well established northwest of the Basin on the Highland Rim, apparently due to migration along the Cumberland River. Collections from Dickson County, Tennessee, are cited, making a total of nine known county occurrences from that state. The species is reported as new to Kentucky (Trigg County).

The genus *Lesquerella* Watson (Brassicaceae) has been studied extensively, including monographs by Payson (1922) and Rollins and Shaw (1973). Several species of eastern North America, especially those of the Middle Tennessee area, have been closely examined with respect to hybridization, distribution, and dispersal (Rollins 1952, 1957, Rollins and Solbrig 1973).

The species considered here, *L. lescurii* (Gray) Watson, has a limited distribution (Fig. 1) and has long been considered endemic to the Central (Nashville) Basin of Tennessee, a Section of the Interior Low Plateau Province of Fenneman (1938). This was noted by Rollins and Shaw (1973), but three of the eight counties they cited as comprising the total distribution are within the Highland Rim Section, *sensu* DeSelm (1959).

Because of this limited distribution, *L. lescurii* was considered a threatened species by Ayensu and DeFillips (1978) and the Committee for Tennessee Rare Plants (1978). However, it is locally abundant in the Central Basin and may sometimes be found in large stands on roadsides and in agricultural fields. Rollins (1955, 1957) noted that it thrives equally well on flood plains of rivers and on the thin soils of open, cedar glade-like areas of hill slopes, but it rarely, if ever, occurs on glades (Baskin *et al.* 1968).

Northwest of the Central Basin on the Highland Rim, early spring stands of several acres of *L. lescurii* may be found along the Cumberland River in bottomland meadows and fallow fields that were under tilth the previous year. Most of these sites are subject to occasional flooding. Also, it is not unusual to find small populations and scattered plants on open, upland sites

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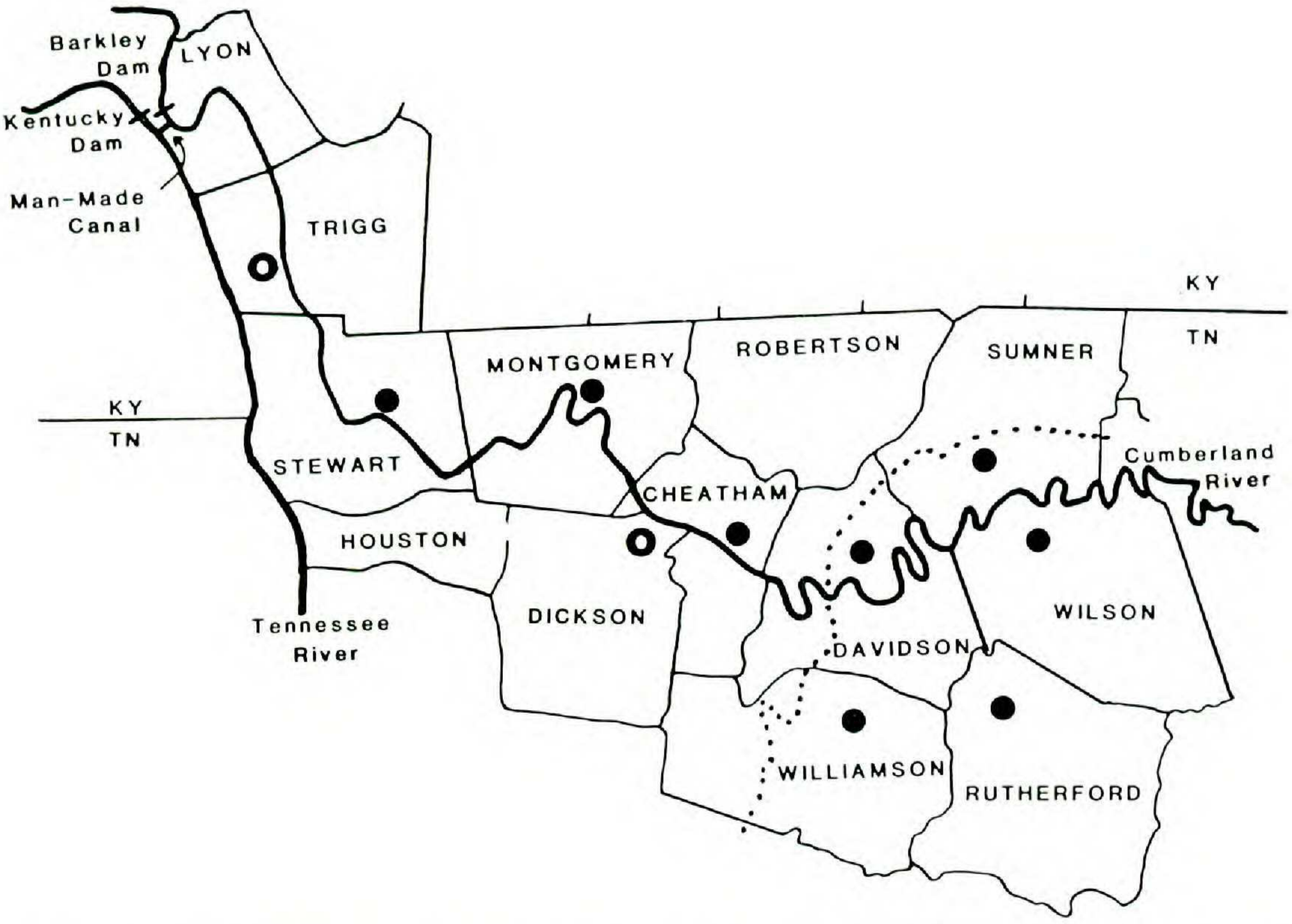

Fig. 1. The known county distribution of *Lesquerella lescurii* (Gray) Watson. Solid circles are reports of Rollins and Shaw (1973); open circles are first reports. The broken line is the approximate northwestern boundary of the Central Basin redrawn from DeSelm (1959).

several miles from the extensive bottomland stands. This is especially noticeable near the Basin in Cheatham County but less so westward in Montgomery County; upland sites have not been observed west or north of the latter County. These upland populations may be the result of dissemination by farm equipment since they are most often found on or near farm roads leading to bottomlands.

In 1980, several large populations were found on alluvium along the Cumberland River in Stewart County about 10 miles south of the Kentucky border, and it was suspected that the species might occur in that state as well. Searches in 1980 were unsuccessful, but in 1981 plants were found in an alluvial meadow in Trigg County. Only a few scattered individuals were observed, as opposed to the dense stands characteristic of similar habitats southeastward. Areas to the north, both below and above Barkley Dam (Fig. 1), were visited but no other plants were found.

Rollins (1973) noted that there is evidence that *L. lescurii* is actively expanding its range by natural means and through human activities. He discussed periodic flooding of the Cumberland River as an important factor in dispersal within the Central Basin. It appears that this river has provided a migratory route from the Basin into northern Tennessee and southern

Kentucky. It is not known whether or not impoundment due to Barkley Dam, constructed in 1966, has been significant in this migration (occasional flooding of bottomlands not permanently inundated still occurs), but the lack of previous reports from Kentucky may indicate recent movement there.

In summary, the collections cited below increase from eight to nine the number of Tennessee countries known to harbor the species and add it to the known Kentucky flora. It is not endemic to the Central Basin of Tennessee but has spread, via the Cumberland River, to the western Highland Rim of Tennessee and Kentucky. The extent and number of populations are much reduced downstream from Montgomery County and are limited to alluvium. Further northward migration may follow, but impoundment has left few suitable habitats between the Tennessee-Kentucky border and Barkley Dam. The man-made canal connecting the Cumberland and Tennessee rivers 40 river miles north of the presently-reported northernmost site could possibly allow for seed dispersal to that drainage system.

Specimen citations: TENNESSEE. Dickson Co.: floodplain of Cumberland River between mouth of Harpeth River and Johnson Creek, 3 Apr 1981, *Chester and Scott 8117* (APSU). Stewart County: Cumberland River bottomlands near mouth of Bear Creek; 18 Apr 1980, *Chester, Carpenter, and Stack, 4354*, ! Reed C. Rollins (APSU, GH). KENTUCKY. Trigg County: west shore of Cumberland River across from Linton; *Chester, 81-3* (APSU).

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